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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/560,750

12/15/2005

Masayuki Uryu

ABE-035

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EXAMINER

MITCHELL, KATHERINE W

ART UNIT

PAPER NUMBER

3677

MAIL DATE

DELIVERY MODE

11/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/560,750	Applicant(s) URYU, MASAYUKI	
	Examiner Katherine W. Mitchell	Art Unit 3677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/18/07 & 12/15/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because of the use of legal terms "said". Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

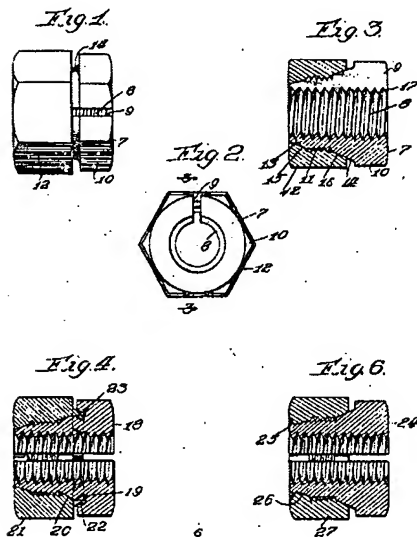
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-2 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Wright, United States Patent number 1207356.

Re claim 1: A loosening preventive structure for a bolt and nut, comprising a bolt (see text below), a nut member to be threadably engaged with said bolt by a female thread defined in an interior circumferential wall and a lock nut for locking said nut

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member on said bolt, in which said nut member has a lock nut engaging section made in a tapering or linear shape extending axially toward one end thereof, said lock nut engaging section having a male thread defined in an exterior circumferential wall thereof in an identical or an inverse threading direction relative to said female thread defined in said interior circumferential wall and also including a slit 9 extending axially toward the one end thereof, wherein said lock nut is threadably engaged with said male thread so as to lock said nut member on said bolt, per below:



ment with a wrench. The other end of the nut is provided with a reduced portion 11, which is threaded for engagement with the locking sleeve or member 12. These threads are preferably made considerably finer than the threads of the nut proper. The reduced portion of the nut is provided with a beveled end 13, and with a beveled or conical portion 14, between the threaded portion and the wrench portion 10. The locking sleeve or collar 12 is provided with corresponding beveled portions

15 and 16 for engagement with the beveled portions 13 and 14. When the nut is to be locked in position, the operator screws the main portion to its desired location, and then tightens the locking sleeve 12, which forces the beveled portions thereof against the beveled portions of the nut proper, and thereby causes the nut to be compressed throughout its full length, so that it will bear closely against the threads of the bolt upon which it is placed. The slot 9 is made sufficiently wide so that it will allow for the compression of the nut, and is also preferably made sufficiently wide so that the inner corners or edges 17, formed where the threads of the nut terminate in the slot, will tend to turn in so as to bite against the corresponding edges of the threads of the bolt, and thereby give an additional jamming or locking action.

Re claim 2. A loosening preventive structure for a bolt and nut in accordance with claim 1, in which said female thread defined in said interior circumferential wall in said lock nut engaging section is a coarse thread and said male thread defined in said exterior circumferential wall in said lock nut engaging section is a fine thread, per below:

ment with a wrench. The other end of the nut is provided with a reduced portion 11, which is threaded for engagement with the locking sleeve or member 12. These threads are preferably made considerably finer than the threads of the nut proper. The reduced portion of the nut is provided with a beveled end 13, and with a beveled or conical portion 14, between the threaded portion and the wrench portion 10. The locking sleeve or collar 12 is provided with corresponding beveled portions

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

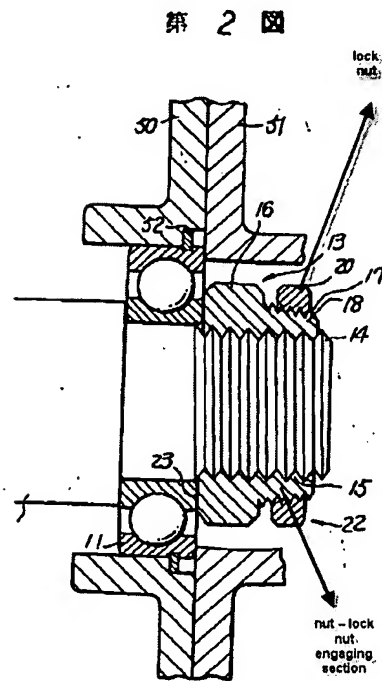
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 58-119611 in view of Lantz United States Patent number 1081239.

Re claim 1: A loosening preventive structure for a bolt and nut, comprising a bolt (14, inherent), a nut member 18 to be threadably engaged with said bolt by a female thread defined in an interior circumferential wall and a lock nut 30 for locking said nut member on said bolt, in which said nut member has a lock nut engaging section (see below) made in a **tapering** or linear shape extending axially toward one end thereof, said lock nut engaging section having a male thread (at 17) defined in an

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exterior circumferential wall thereof in an identical or an inverse threading direction relative to said female thread (at 15) defined in said interior circumferential wall, wherein said lock nut is threadably engaged with said male thread so as to lock said nut member on said bolt, per below:



However, a slit extending axially toward the one end thereof is not taught. Lantz teaches a similar loosening preventive structure for a bolt and nut, wherein the nut has a slit extending axially toward the one end thereof, per Fig 3 and below:

illustrated. The nut and extension 8 and 4 are parted longitudinally as more clearly illustrated in Fig. 3 and when positioned upon a bolt are devised to be spaced a slight distance apart in order that the locking nut 7 which threadably engages the exterior threads 6 is adapted to force the two parts of the nut and extension together and to thereby securely lock them upon the bolt 2. The locking nut 7 is

Therefore, it would have been obvious to one

of ordinary skill in the art, having the teachings of JP 58-119611 in view of Lantz before

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him at the time the invention was made, to modify JP 58-119611 as taught by Lantz to include an axial extending slit, in order to obtain a secure locking grip on the bolt when the nut 3/5/6 and locknut 7 are engaged.

Re claim 2. A loosening preventive structure for a bolt and nut in accordance with claim 1, in which said female thread defined in said interior circumferential wall in said lock nut engaging section is a coarse thread and said male thread defined in said exterior circumferential wall in said lock nut engaging section is a fine thread, per JP 58-119611 Fig 2 above.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine W. Mitchell whose telephone number is 571-272-7069. The examiner can normally be reached on Mon - Thurs 10 AM - 8 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. J. Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Katherine W Mitchell
Primary Examiner
Art Unit 3677

11/5/2007

A handwritten signature in black ink, appearing to read 'K Mitchell', is written over the printed name and title.